

WHAT IS CLAIMED IS:

1. A display apparatus comprising:
  - a data writing section that includes a data line which supplies an electric potential corresponding to an emission brightness and a first
  - 5 switching section which controls writing of electric potential that is supplied through the data line, and writes an electric potential corresponding to an emission brightness; and
  - a threshold voltage detecting section that includes
    - a second switching section which controls conduction
    - 10 between a gate electrode and a drain electrode of a driver element which controls current according to the electric potential written by the data writing section and which has a thin film transistor; and
    - a current light emitting element that displays light with a brightness corresponding to a current flowing therethrough, and is
    - 15 capable of supplying electric charge to the drain electrode or a source electrode of the driver element, as a capacitor that stores electric charge, and detects a threshold voltage of the driver element.
2. The display apparatus according to claim 1, wherein the
- 20 threshold voltage detecting section detects the threshold voltage of the driver element, on the driver element whose gate electrode and drain electrode are shorted by the second switching section, by OFF state in which a potential difference between the gate and the source drops to the threshold voltage by a reduction in the electric charge stored after
- 25 the driver element is put ON based on a potential difference between

the gate and the source caused by the electric charge stored in the current light emitting element.

3. The display apparatus according to claim 1, wherein an electric  
5 potential applied to the driver element during emission of light is a sum  
of the threshold voltage of the driver element detected by the threshold  
voltage detecting section and the electric potential written by the data  
writing section.

10 4. The display apparatus according to claim 1, wherein the  
threshold voltage detecting section includes a power-supply line that  
supplies current by applying voltage in a forward direction to the current  
light emitting element during emission of light and can store electric  
charge by applying voltage in a reverse direction to the current light  
15 emitting element.

5. The display apparatus according to claim 1, further comprising a  
first scan line for controlling a drive state of the first switching section.

20 6. The display apparatus according to claim 1, wherein the current  
light emitting element is an organic electroluminescence element.

7. The display apparatus according to claim 1, wherein the data  
writing section further includes a capacitor which holds an electric  
25 potential supplied from the data line.

8. The display apparatus according to claim 1, further comprising a third switching section that is provided between the data writing section and the threshold voltage detecting section, and controls electric  
5 conduction between the data writing section and the threshold voltage detecting section.

9. The display apparatus according to claim 8, further comprising a second scan line for controlling a drive state of the second switching  
10 section and a drive state of the third switching section, wherein  
each of the second switching section and the third switching section includes a thin film transistor whose gate electrode is connected to the second scan line and which has different conductivity type of channel layer from each other.

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10. The display apparatus according to claim 8, wherein each of the second switching section and the third switching section has a thin film transistor with a same conductivity type of channel layer, and  
the drive state of the second switching section and the drive  
20 state of the third switching section are controlled through different scan lines.

11. The display apparatus according to claim 1, further comprising:  
a capacitor that is disposed between the data writing section  
25 and the threshold voltage detecting section and includes a first

electrode electrically connected to the data writing section and a second electrode electrically connected to the threshold voltage detecting section; and

5 a fourth switching section that is electrically connected to the first electrode and controls electric potential of the first electrode.

12. The display apparatus according to claim 11, wherein the fourth switching section, when in ON state, while maintaining an electric potential difference between the first electrode and the second  
10 electrode, causes a same amount and different polarity of an electric charge as that held in the first electrode to the second electrode and eliminates an electric charge held in the first electrode, and when in OFF state, continues to hold the electric charge without transferring the electric charge held in the capacitor.

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13. The display apparatus according to claim 11, wherein each of the second switching section and the fourth switching section includes a thin film transistor whose gate electrode is connected to the third scan line and which has different conductivity type of channel layer from  
20 each other.

14. The display apparatus according to claim 11, wherein each of the second switching section and the fourth switching section has a thin film transistor with a same conductivity type of channel layer, and  
25 the drive state of the second switching section and the drive

state of the fourth switching section are controlled through different scan lines.

15. The display apparatus according to claim 1, wherein the second  
5 switching section includes a first thin film transistor connected to a gate electrode of the driver element and a second thin film transistor connected to the drain electrode of the driver element.

16. The display apparatus according to claim 15, wherein the  
10 second thin film transistor is put ON together with the first thin film transistor to short the gate electrode and the drain electrode of the driver element and holds the threshold voltage detected by OFF state after the threshold voltage is detected.

15 17. The display apparatus according to claim 1, further comprising a capacitor that is disposed between the data writing section and the threshold voltage detecting section and includes a first electrode electrically connected to the data writing section and a second electrode electrically connected to the threshold voltage detecting  
20 section, wherein

the data line supplies a reference electric potential during the emission of light, during detection of the threshold voltage of the driver element by the threshold voltage detecting section, and during storing of the electric charge in the current light emitting element, and  
25 the first switching section causes electric conduction between

the data line and the first electrode the during emission of light, during the detection of threshold voltage of the driver element by the threshold voltage detecting section, and during the storing of the electric charge in the current light emitting element.

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18. The display apparatus according to claim 1, wherein all the current light emitting elements display light simultaneously and display one screen simultaneously.

10 19. The display apparatus according to claim 1, wherein electric charge is stored simultaneously in all the current light emitting elements and all the second switching sections short the gate electrode and the drain electrode of the driver element simultaneously.

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